

to evaluate mean annual total health care cost per-capita and mortality. **RESULTS:** The annual rate of first ICD implant (per million-persons) increased, from 55 in 2000 to 236 by 2008. The use of ICD in Lombardy was approximately 2 times higher than in Europe and 3–4 times lower than in US. The replacement rate was around 10 (per hundred implant-year) with a peak in 2005. The hospitalization for a first ICD implant cost €23,814 (CI95%, 23,676–23,960) on average. During follow-up, 15.4% of patients died and the HS bore a mean annual cost of €4,354 (CI95% 4,226–4,485) per-capita: 17% due to drugs, 12% to outpatient visits and 71% to hospitalizations. Younger patients reported lower costs in drug treatments and outpatient visits and a higher expenditure for hospitalizations. **CONCLUSIONS:** ICD use is growing and it's important to assess the efficacy and the burden of this therapy, given the economic implications and differences in use among countries. Health care administrative databases are a useful tool, as they provide information about large unselected populations.

PMD83

THE COST IMPACT OF MODIFYING PATTERNS OF SELF-MONITORING OF BLOOD GLUCOSE IN AN IRISH TYPE 2 DIABETES COHORT

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OBJECTIVES: International best-practice guidelines for self-monitoring of blood glucose recommend testing for patients on basal insulin be limited to twice daily, with periodic testing for patients on oral glucose lowering therapies including insulin secretagogues and insulin sensitizers. The aim of this study is to estimate the potential cost savings if frequency of self-monitoring of blood glucose in patients with Type 2 diabetes in Ireland is rationalised according to these guidelines. **METHODS:** Data were analysed using 1) a national prescription claims database for 2011 (dispensed data), and 2) a survey conducted on 604 Type 2 diabetes patients in 2011 (self-reported data). Patients receiving prescriptions for diabetes were identified and total ingredient cost and quantity of test strips dispensed were calculated. Drugs and diagnostic test strips were classified and identified according to the WHO ATC classification system. Frequency of testing for various treatment strategies was obtained. Analysis was performed in SAS (v9.1) **RESULTS:** The total ingredient cost of test strips was €24.5m (dispensed data) and €118,625.47 (self-reported data) in 2011. The average frequency of testing for patients on oral agents was 3 times daily (both insulin secretagogues and sensitizers) (dispensed data) compared to once daily (self-reported data). **CONCLUSIONS:** Results from this study indicate cost savings of approximately €10.4m per annum should frequency of blood glucose monitoring be restricted to patients on insulin containing regimens alone. The results also highlight a difference in frequency of blood glucose monitoring between dispensed data and self-reported data, indicating the wastage that currently exists in the system.

PMD84

TELEMONITORING AFTER DISCHARGE WITH HEART FAILURE - COST-EFFECTIVENESS MODELLING OF ALTERNATIVE SERVICE DESIGNS

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OBJECTIVES: Model cost-effectiveness of home Telemonitoring (TM) or Structured Telephone Support (STS) strategies versus usual care for adults recently discharged (within 28 days) after a Heart Failure (HF) exacerbation in England and Wales. **METHODS:** A Markov model evaluated 4 interventions: a) STS Human to Machine, b) STS Human to Human, and c) TM during office hours d) usual care. Given heterogeneity in the interventions, cost-effectiveness analysis was performed using bottom up costing scenarios regarding costs of devices, monitoring and medical care to deal with alerts. Costs and QALYs over a 30 year horizon depend on monthly probability of death and monthly risks of hospitalisations (HF-related complications or other causes) computed using a Bayesian network meta-analysis of intervention trials. **RESULTS:** Base case monthly cost per patient were: £27 for usual care, £119 for STS HM, £179 for STS HH and £175 for TM during office hours. The base case found that TM during office hours was the most cost-effective strategy. Compared with usual care, TM during office hours had an estimated incremental cost effectiveness ratio (ICER) of £9,552/QALY, whereas STS HH had an ICER of £63,240/QALY against TM during office hours. STS HM was dominated by usual care. PSA showed probabilities of cost-effective for TM during office hours cost effective of 44%, STS HH 36%, STS HM 18% and usual care 2%. Threshold analysis suggested that the monthly cost of TM during office hours has to be higher than £390 to have an ICER greater than £20,000/QALY against STS HH. Scenario analyses performed using higher costs of usual care, higher costs of STS HH and lower costs of TM during office hours do not substantially change the conclusions. **CONCLUSIONS:** Cost-effectiveness analyses suggest TM during office hours was an optimal strategy in most scenarios, but there is considerable uncertainty in relation to clear descriptions of the interventions and robust estimation of costs.

PMD85

AGENT-BASED CARDIOVASCULAR DISEASE MODEL FOR INDIA

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OBJECTIVES: The health care sector in India is growing rapidly while facing increased demands for quality and efficiency of care. We have developed an agent-based model (ABM) of cardiovascular disease (CVD) for India to inform relevant

health care policy and investment decisions by simulating infrastructure expansion scenarios and estimating associated health care requirements and health and economic impacts. **METHODS:** The primary agents in our model are individual health care facilities, including hospitals and health care centers. Health care facilities are configured by model users and placed in selected jurisdictions to simulate multiple CVD diagnostic and treatment strategies over a time horizon of up to 20 years. A facility description includes basic patient information, the catchment population served by the facility, the diagnostic capacity of that facility (e.g., how many ECG tests the facility can provide), and the diagnostic strategies used by that facility to diagnose CVD. Multiple sets of patient-strategy combinations can be defined for each facility allowing for inter-facility and intra-facility comparisons. Using this information, each facility in the CVD model calculates a total patient population, segments the patient population into individual patient groups, and runs these groups through specified diagnostic strategies. Our CVD ABM was developed using the Repast Symphony ABM environment. **RESULTS:** The results of running each patient group through the specified strategies are recorded and used to calculate multiple health and economic summary metrics. The metrics include diagnostic outcomes, costs, quality-adjusted life years, capacity metrics, and a customized composite score. The results of an example scenario will be reported. **CONCLUSIONS:** CVD ABM has potential to inform complex health care infrastructure investment decisions that could improve access to CVD care and positively affect health and economic outcomes, while increasing operational efficiency of health care delivery in India.

PMD86

INAPPROPRIATE USE OF UPPER GASTROINTESTINAL ENDOSCOPY IN CLINICAL PRACTICES IN JAPAN

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OBJECTIVES: In Japan, cancer screening is not covered by health insurance, but is provided and paid for by local governments. In clinical practice, asymptomatic subjects have undergone upper gastrointestinal endoscopy as cancer screening that has been charged to health insurance. In order to file a claim for health insurance, the actual name of the disease must be reported even for an asymptomatic person. The number of upper gastrointestinal endoscopic examinations for asymptomatic persons in clinical practices was estimated based on the national health insurance data and the national patients' survey. **METHODS:** There were 501,002 endoscopic examinations and 178,200 persons with gastric diseases in 2008. The appropriate numbers of endoscopic examinations were calculated based on the following models. At admission, an endoscopic examination was performed once for each patient. For outpatient cases at the first visit, an endoscopic examination was performed once for gastric and esophageal cancer patients and 0.5 times for patients with another upper gastrointestinal disease. For outpatient follow-up, patients were examined once a year if they had a gastric cancer or an esophageal cancer and 0.5 times a year if they had another upper gastrointestinal disease. A sensitivity analysis of the number of endoscopic examination of outpatients with another upper gastrointestinal disease was performed by changing the number of examinations from 0.1 to 0.8 times for outpatients both at the first visit and at follow-up. The difference between the estimated and observed numbers was defined as representing the number of inappropriate endoscopic examination performed for asymptomatic patients. **RESULTS:** Using the initial assumptions, asymptomatic patients accounted for 30.8% of all cases undergoing upper endoscopy. On sensitivity analysis, this ranged from 2.2% to 69.0%. **CONCLUSIONS:** The results suggest that a substantial number of upper gastrointestinal endoscopies are performed for asymptomatic patients in clinical practice, and this cannot be ignored.

PMD88

DISPARITIES IN ACCESS TO EGFR-MUTATION TESTING IN PATIENTS WITH ADVANCED NSCLC IN GERMANY 2011

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OBJECTIVES: The data from clinical trials show, that in patients with advanced non-small-cell lung-cancer and with activating EGFR-mutations first-line use of tyrosine kinase inhibitors (TKI) may be of advantage compared to standard doublet chemotherapy. However, testing of all newly diagnosed patients with advanced NSCLC has been considered as a financial burden in daily clinical routine. The rate of EGFR-testing in daily practice was analyzed by institution type, histology, individual patient characteristics and by federal state. The EGFR-test processing was analyzed with respect to sampling, quality of samples, referral to the certified pathologists, reimbursement and coverage of costs. **METHODS:** The online survey was performed in a representative sample of decision making physicians in 102 centres (21 university hospitals, 44 non-university hospitals, 32 office-based oncologists, 5 lung clinics) treating patients with advanced NSCLC in the 3rd quarter of 2011. The impact of relevant factors (turn-around time, regional density of hospitals or specialist physicians, the type of test-initiating institution) on the likelihood of testing was assessed by using a two-sided Chi-square test **RESULTS:** Only a minority of patients with NSCLC IIIb/IV (40%) had access to EGFR-testing and to the respective treatment in case of a mutation in Q3 2011. Reasons may include the long waiting-time for test results (mean 9.2 d, range 5–14 d), the inadequate reimbursement of testing, esp. in lung clinics, and patient selection according to individual characteristics by the physician in order to reduce the test rates and the